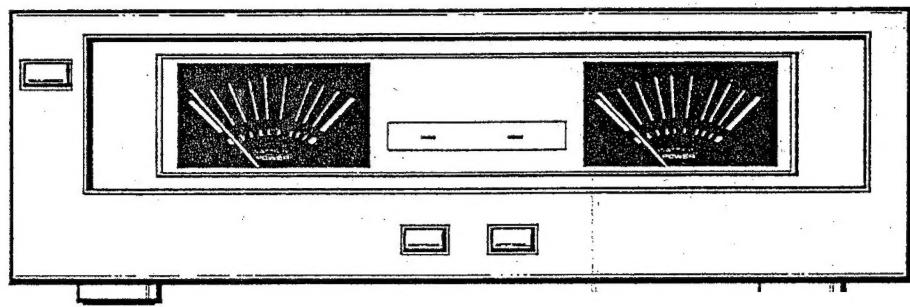


**SERVICE
MANUAL**

UMA - 400

STEREO MAIN AMPLIFIER



SPECIFICATIONS

UHER UMA 400

UHER-Servicestelle

Holm 69/69

Kulpenweg 97 • 2100 Hamburg 21

Tel. 040/21 20 71

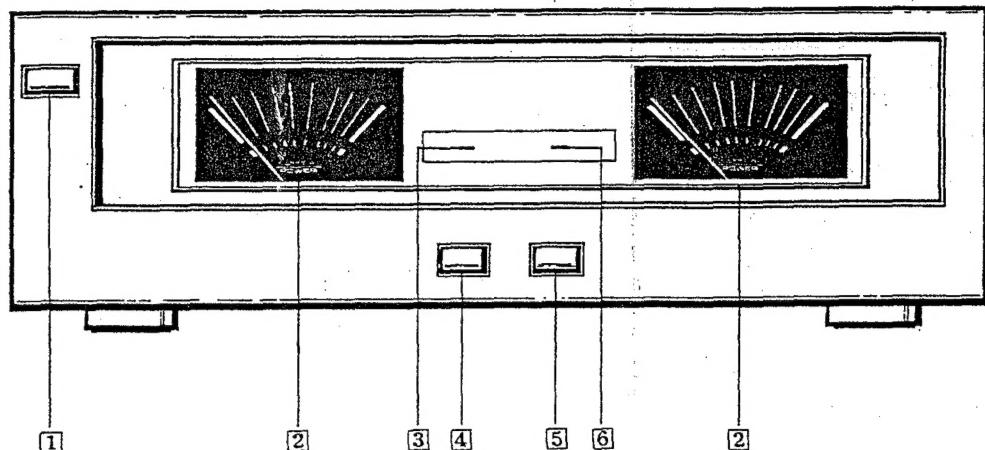
Amplifier Section

Continuous average power output (both channel driven)	
into 8 Ohms(from 20Hz to 20kHz)	180W
into 8 Ohms(from 1kHz)	200W
Total Harmonic Distortion	
into 8 Ohms(from 20Hz to 20kHz)	0.08%
Signal to Noise Ration(IHF "A" Network)	114dB
Input/Sensitivity / Impedance	1V / 56KΩ
Frequency Response	
6Hz to 110kHz	-3dB
Power "ON" Muting Time	5 Sec

Miscellaneous

Power requirements	AC220V,50Hz
Power consumption	620W
Dimension(W X H X D)	420 X 130 X 380 mm

FRONT PANEL FEATURES



① POWER SWITCH

Press the switch to supply power to the amplifier.

② OUTPUT LEVEL METER

The output power level meters give a visual indication of audio power being delivered to each speaker.

③, ⑥ PROTECTION CIRCUIT OPERATION INDICATOR LAMP

The red LED indicates when the protection circuit is activated and the green LED indicates when the protection circuit is off.

The protection circuit activate for 5-7 SEC when the Power is "ON" or a heat beyond a specific temperature.

④ SPEAKER "A" SELECTOR SWITCH

Press button to listen to the sound connected to the speaker terminal A.

[ON] -Pressed position ; The sound is heard from speaker system A.

[OFF] -Released position ; The sound is not heard from speaker system B.

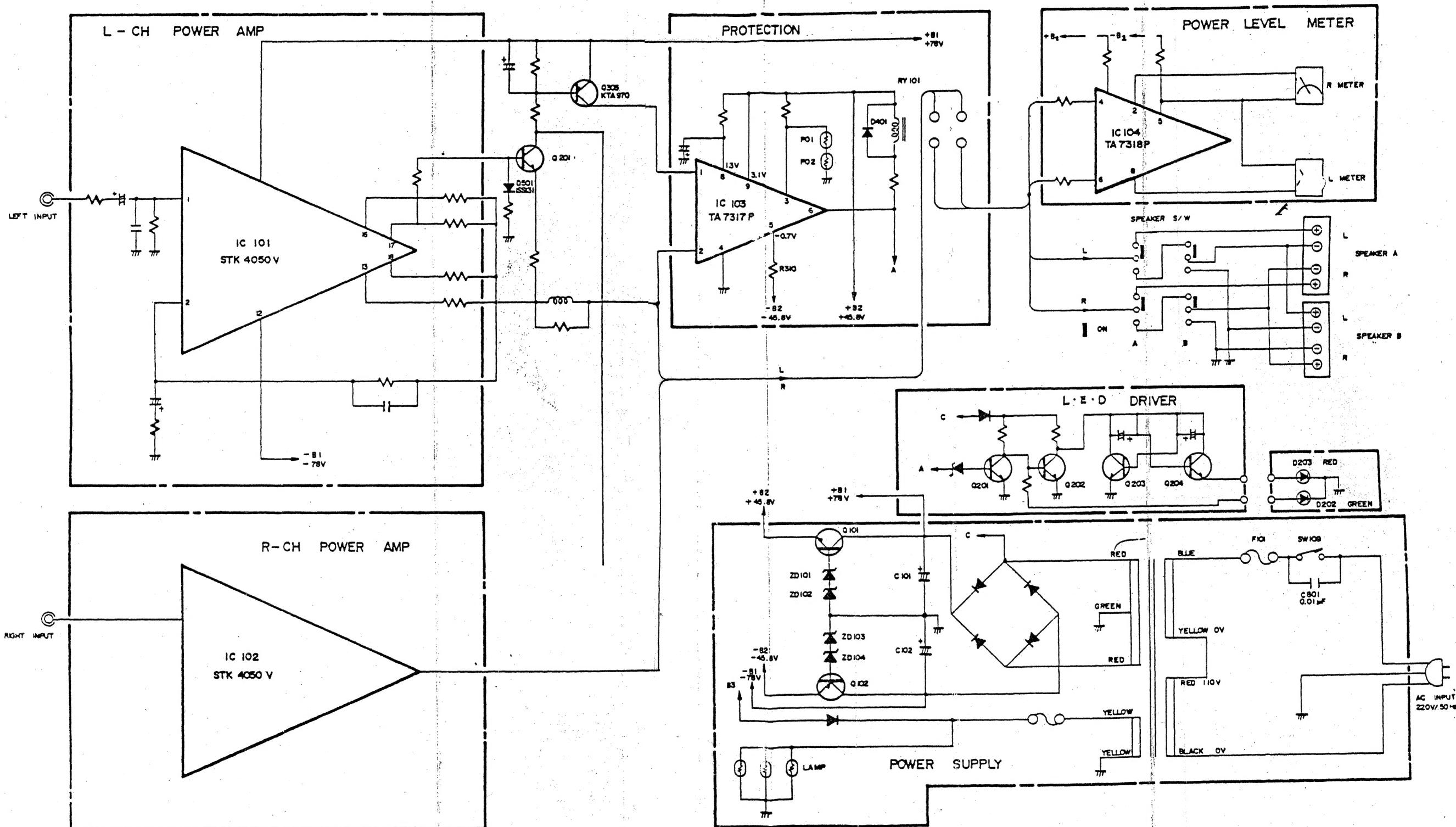
⑤ SPEAKER "B" SELECTOR SWITCH

Press button to listen to the sound connected to the speaker terminal B.

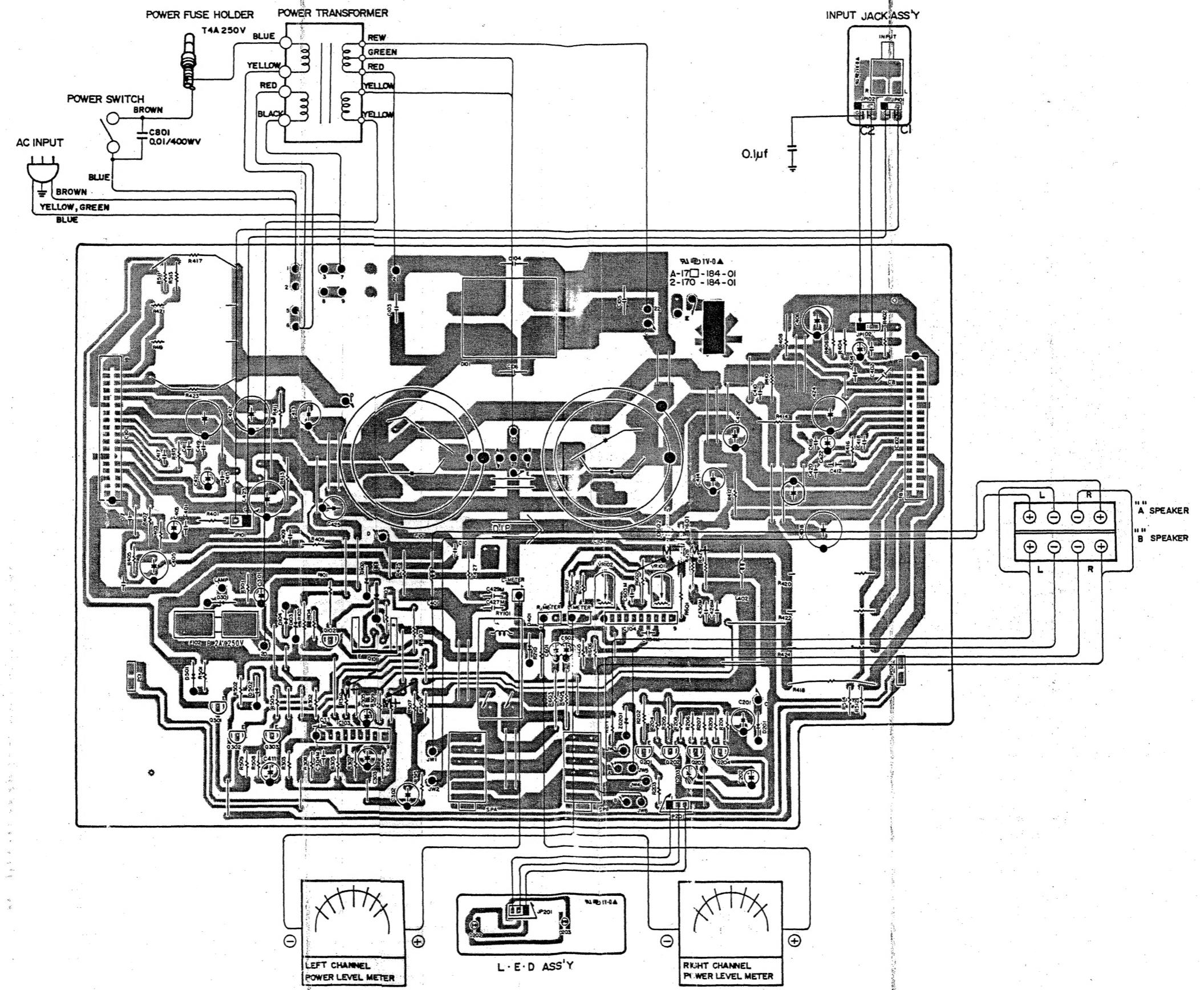
[ON] -Pressed position ; The sound is heard from speaker system B.

[OFF] -Released position ; The sound is not heard from speaker systems A.

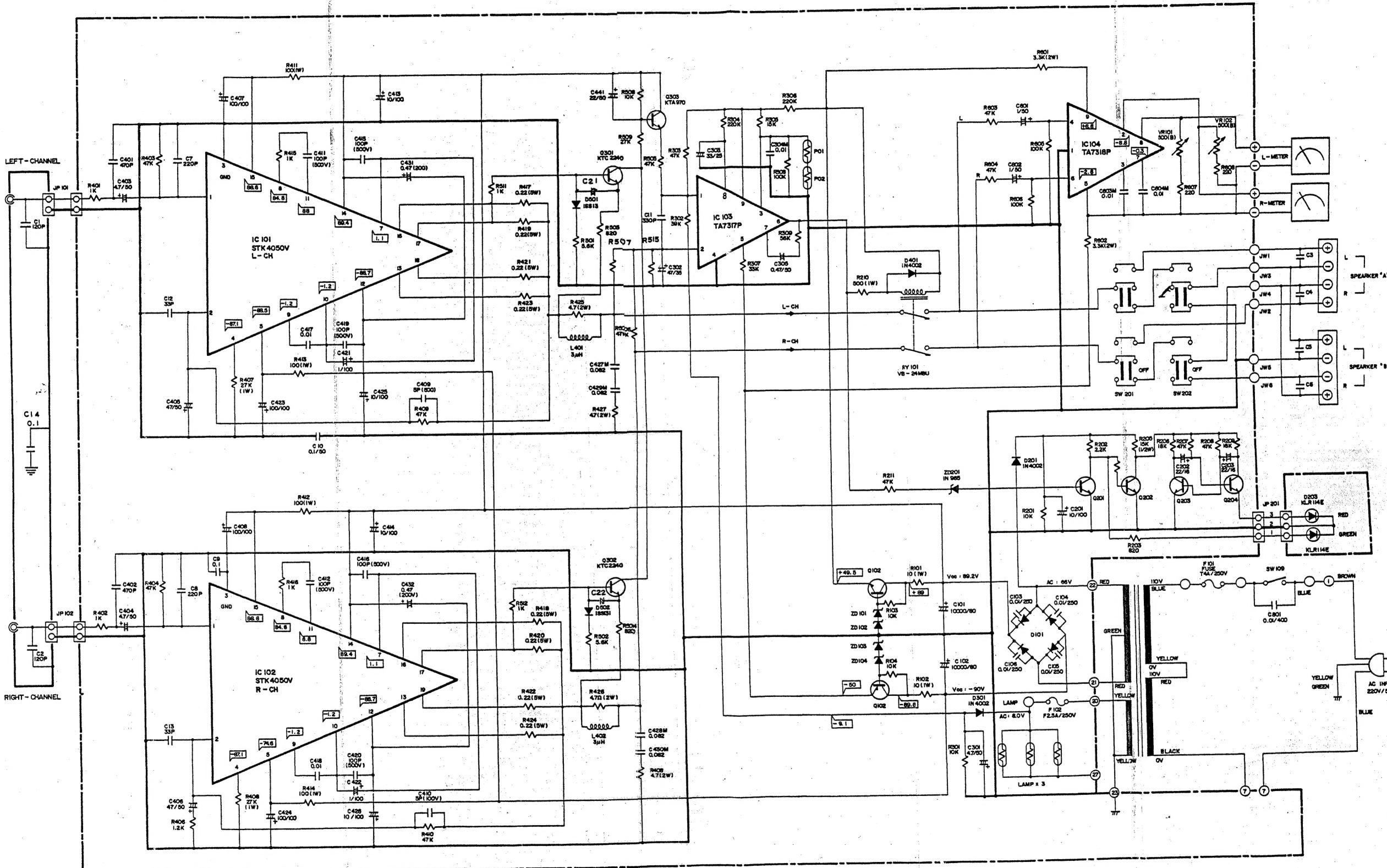
BLOCK DIAGRAM



WIRING DIAGRAM



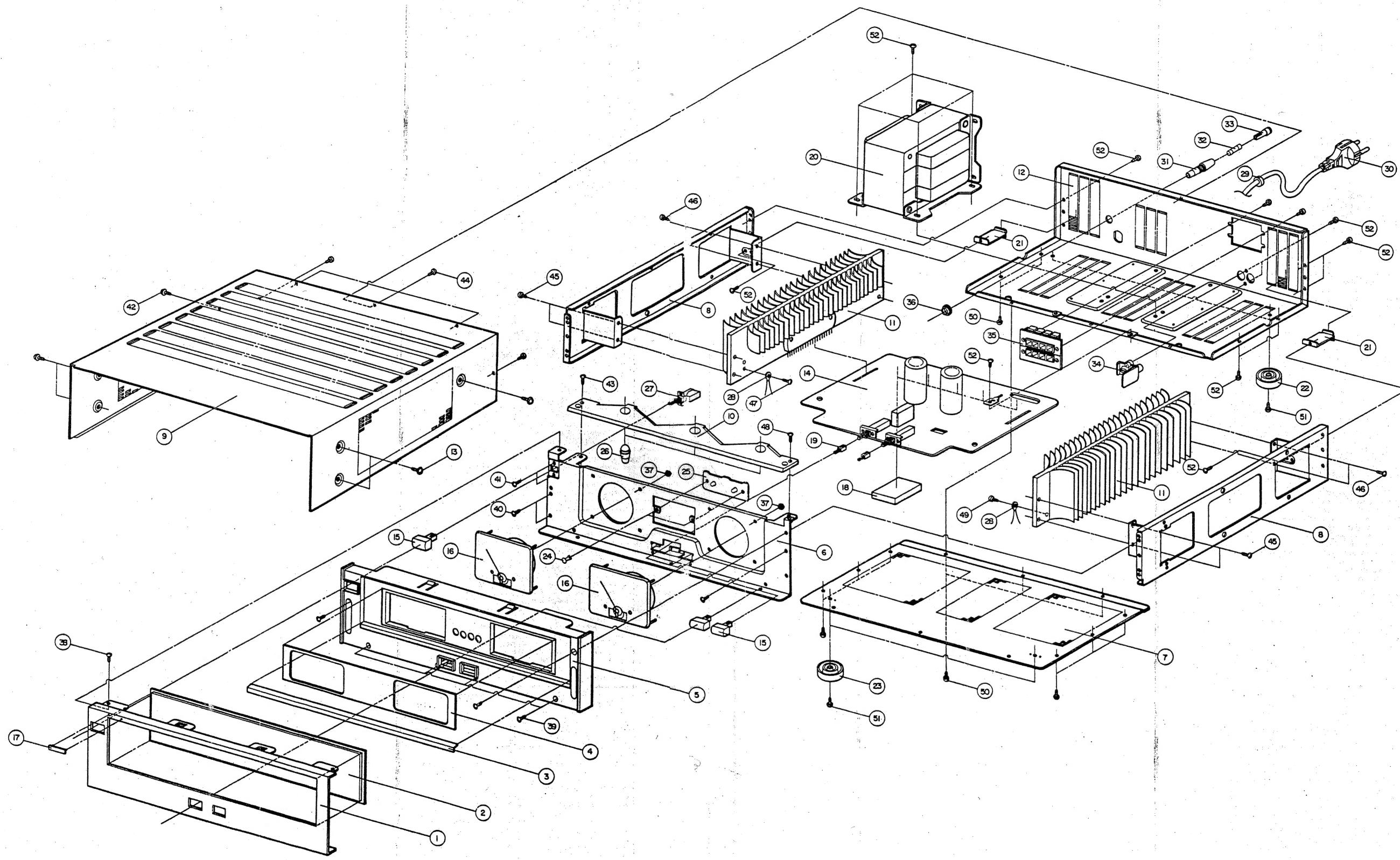
SCHEMATIC DIAGRAM



NOTES
 THE FOLLOWING UNITS AND FIGURES ARE USED WITHOUT WRITING IN THE SCHEMATICS
 VOLTAGE : V
 CURRENT : A
 POWER : W
 INDUCTANCE : H
 ALSO, 1/4 IN POWER, 10^3 IN CHARGE, 50V IN CAPACITOR ARE OMITTED
 R, L, C ... AND THEIR NUMBERS ARE THE PART POSITION IN PCB
 → SIGNAL ROUTE
 □ DC VOLTAGE AT UNLOADED

Q101 : KTC 2238
 Q102 : KTA 946
 Q201-204, 301, 302 : KTC2240
 Q303 : KTA 870
 D101 : KBPC25A
 ZD101-104 : IN 9708
 C5, C4, C5, C8 : 0.06/500
 C21, C22 : 1/50 (NP)

EXPLODED VIEW



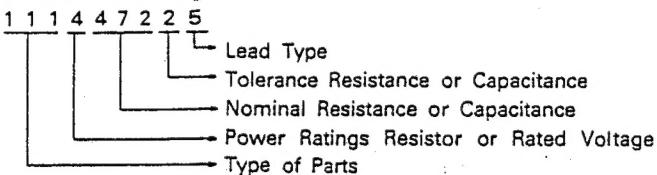
PART LIST EXTERIOR

NO	PARTS NAME	PARTS NO.	Q'TY	NO.	PARTS NAME	PARTS NO.	Q'TY
1	PANEL,FRONT	3-116-801-01	1	27	S/W,POWER	2-202-195-01	1
2	SCREEN, WINDOW	3-114-714-12	1	28	POSISTOR	2-505-120-01	1
3	SHEET, COVER	3-114-719-01	1	29	BUSHING, STRAIN R	8-201-116-01	1
4	SCREEN, SUB	3-114-712-12	1	30	CODE, POWER	2-211-125-03	1
5	BASE, PANEL	3-116-802-01	1	31	SOCKET,FUSE HOLDER	2-999-112-01	1
6	STAY, PANEL	3-114-709-03	1	32	FUSE	2-188-620-01	1
7	PLATE, BOTTOM	3-111-114-03	1	33	CARRIER,FUSE HOLDER	2-999-113-01	1
8	FRAME, SIDE	3-114-708-03	2	34	JACK,2P PIN	2-155-502-01	1
9	CASE, BONNET	3-114-707-02	1	35	TERMINAL, PUSH	2-155-704-01	2
10	REFLECTOR	3-111-127-01	1	36	NUT,FUSE SOCKET		1
11	HEAT SINK	3-114-704-02	2	37	NUT		1
	CHASSIS, REAR	3-116-808-01	1	38	SCREW		
13	SCREW			39	SCREW		
14	PCB UNIT ASS'Y	A-17d-184-01	1	40	SCREW		
15	KNOB, POWER	3-214-504-01	3	41	SCREW		
16	ASS'Y METER,PANEL	3-116-806-01	2	42	SCREW		
17	BADGE	3-214-516-01	1	43	SCREW		
18	CUSHION, PCB	3-111-204-01	5	44	SCREW		
19	JOINT	3-111-130-02	2	45	SCREW		
20	TRANS, POWER	2-131-259-03	1	46	SCREW		
21	BRACKET, HEAT SINK	3-115-313-01	2	47	SCREW		
22	FOOT	3-116-127-01	2	48	SCREW		
23	FOOT ASS'Y	3-116-126-01	2	49	SCREW		
24	RIVET ASS'Y,PLASTIC	3-413-210-01	2	50	SCREW		
25	CONTROL PCB ASS'Y	A-17A-587-01	1	51	SCREW		
26	CAP(B),LAMP	3-211-804-01	3	52	SCREW		

ELECTRICAL PARTS LIST

NOTE: When ordering parts first convert parts number into code form as shown in the following examples.

○ PARTS Numbering



○ RESISTOR

ex) Power Ratings Resistors

8	... 1/8W	4	... 1/4W	5	... 1/2W
1	... 1W	2	... 2W	7	... 4W

ex) Resistor Value

479	... 4.7 Ω	560	... 56 Ω	681	... 680 Ω
822	... 8.2KΩ	123	... 12KΩ	224	... 220KΩ

*CARBON film Resistor; 1 1 1 437225(3.7KΩ, 1/4W)

○ CAPACITANCE

ex) Rated Voltage

3	... 16V	4	... 25V	5	... 35V
6	... 50V	7	... 63V	1	... 6.3V

ex) Type of Ceramic Capacitor

71	... CKDYB	75	... CKDYF	80	... CCDCH
88	... CCDSL	84	... CCDRH	86	... CCDTH

ex) Capacitor Value

040	... 4pF	470	... 47pF	221	... 220pF
182	... 1800pF	103	... 0.01 μF	473	... 0.047 μF

ex) Tolerance Capacitance

0	... C = ± 0.25pF	1	... D = ± 0.5pF	2	... F = ± 1pF
3	... G = ± 2%	4	... J = ± 5%	5	... K = ± 10%
9	... Z = + 80 %	6	... M = ± 20%		
	- 20 %				

*ELECTROLYTIC CAP: 1 4 2 647365(0.047 μF, 50V, ± 20%)

*CERAMIC CAP: 1 8 8 647241(4700pF, 50V, ± 20%)

*MYLAR

CAP: 1 5 0 647251(4700pF, 50V, ± 10%)

STYROL

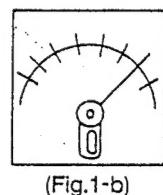
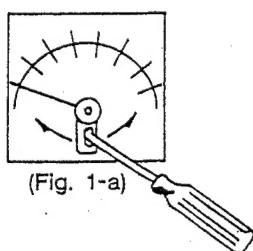
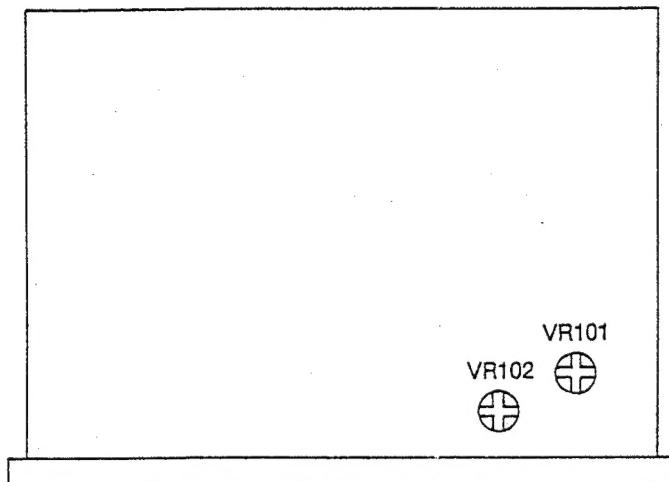
CAP: 1 5 3 643141(430pF, 50V, ± 5%)

P.C BOARD AND OTHERS

REF.NO.	PARTS NO.	DESCRIPTION
● IC's		
IC101,IC102	244203072	STA4050V
IC103	244210375	TA7317P
IC104	244211875	TA7318P
● TRANSISTORS		
Q101	240216521	KTC2238Y,PA
Q102	240010721	KTA949-0
Q201,Q202,Q203	240211811	KTC2240-GR
Q204,Q301,Q302	240011411	KTA970-GR
● DIODES		
D101	241355991	KBPX25-02,25A
D501,D502	241016995	1SS131
D201,D301,D401	241315111	IN4002
D101,D102,D103	242124031	IN970 B,400,24V
D104		
D201	242115031	IN965B,400,15V
D601,D602	242110031	IN758A,400,10V
D202	241902101	KLG114E(GREEN)
D203	241912101	KLR114E(RED)
● CAPACITORS		
C101,C102	199111001	NCH-010-A,10,000 μ F / 80V
C305	142647861	CEA,0.47 μ F / 50V
C601,C602	142601061	CEA,1 μ F / 50V
C421,422	142901061	CEA,1 μ F / 100V
C201,C413,C414	142910061	CEA,10 μ F / 100V
C425,C426		
C407,C408,C423	142910161	CEA,100 μ F / 100V
C424		
C202,C203	142322061	CEA,22 μ F / 16V
C441	142622061	CEA,22 μ F / 50V
C202,C203	142433061	CEA,33 μ F / 25V
C441	142647961	CEA,4.7 μ F / 50V
C303	142547061	CEA,47 μ F / 35V
C301,C403,C404	142647061	CEA,47 μ F / 50V
C302	199810101	0.01 μ F / 250V(NCG-001-A)
C405,C406		
C103,C104,C105	188622141	CCDSL221J,50V,5%
C106	188633141	CCDSL331J,50V,5%
C7,C8	171647151	CKDyb,471K,50V,5%
C11		
C401	171610241	CKDyb102K,50V,5%
C402	175610491	CKDyb104Z,50V
C417,C418	188F10011	CCDSL10D,500V
C9,C10,C14	188F10151	CCDSL101K,500V
C409,C410		
C411,C412,C415	171F15251	CKDyb152K,500V
C416,C419,C420	150610341	Mylar Cap 103J,50V,5%
C3,C4,C5,C6	150682341	Mylar Cap 823J,50V,5%
C304,C603,C604		CCDSL121K,50V,10%
C427,C428,C429	188612151	CEA,1,50V,L,NP,20%
C430	145601061	CEA,0.47,20%,200V,L
C1,C2	142C47863	NCG-002-0 spark-killer
C21,C22		
C431,C432	199810401	

REF.NO.	PARTS NO.	DESCRIPTION
● RESISTORS		
VR101,VR102	254150101	SEMI,F,RESISTOR 500
R417,R418,R419	139012401	WIRE WOUND RESISTOR
R420,R421,R422		0.22 Ω ,5W
R423,R424		
R205	11515321	CARBON F RESISTOR,15K,1/2W
R425,R426,R427	113247923	M.O.R,4.7 Ω ,2W
R428		
R601,R602	113233223	M.O.R,3.3K Ω ,2W
R411,R412,R413	113110123	M.O.R,100 Ω ,1W
R414		
R210	113156123	M.O.R,560 Ω ,1W
R202	113122221	M.O.R,2.2K Ω ,1W
R407,R408	113127323	M.O.R,27K Ω ,1W
● COIL and OTHERS		
P01,P02	250512001	NCW-020
SW101	220219501	NSA-005(POWER SWITCH)
SW201,SW202	220213661	S/W,PUSH
F10	218862001	FUSE(T4A,250V)
F102	218861501	FUSE(F2A,250V)
RY101	214011701	RELAY VB-24MBU
L401,L402	212920701	COIL (ATH-054-0)
JACK,2P PIN	215550201	NKB-002-0
	299911301	CARRIER
		(FUSE HOLDER)
	299911201	SOCKET
	213125903	(FUSE HOLDER)
	221112503	TRANS,POWER
	820111601	CODE,POWER
		BUSHING,STRAIN

ADJUSTMENT



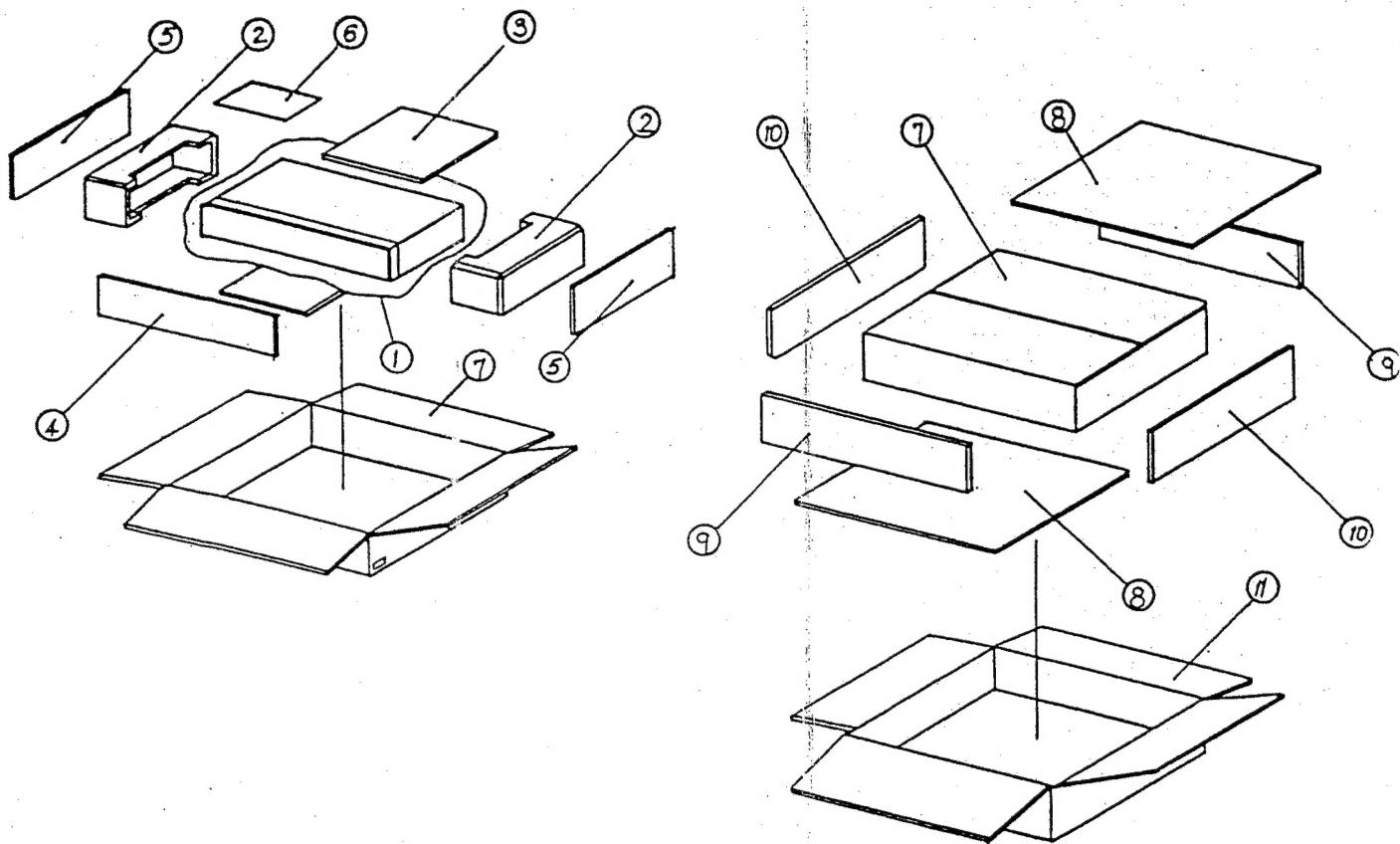
1. THE REFERENCE ADJUSTMENT OF THE LEVEL METER

After released the power and the front pannel adjust the meter needle to "0" on the scale (fig.1-a), (fig.1-b)

2. THE MEASUREMENT RANGE ADJUSTMENT OF THE LEVEL METER

Rotate the range key (VR101, VR102) till the meter needle points to "200W" on the scale (fig.2-a), (fig.2-b). Where range ADJ's clockwise rotation make a range-up while counter clockwise rotation make a range-down.

PACKING DRAWING



NO	DESCRIPTION	PARTS NUMBER	Q'TY
1	SHEET POLY	3-415-046-01	1
2	PAD SIDE	3-114-706-01	2
3	PAD SHEET(A)	3-115-320-01	2
4	SHEET PACKING	3-115-309-01	1
5	PAD SHEET	3-116-713-01	2
6	MANUAL	3-116-804-01	1
7	PACKING CASE	3-115-303-01	1
8	PAD SHEET(C)	3-115-315-01	2
9	PAD SHEET(D)	3-115-316-01	2
10	PAD SHEET(E)	3-115-317-01	2
11	MASTER CARTON BOX	3-116-714-01	1